
LD 35: Common Equipment Diagnostic

This program is used to maintain the Central Processing Unit (CPU) and related cards. It can be run in background, during the daily routines, or loaded manually to enter commands. Problems are reported by CED messages.

The CED program is used to:

- clear the maintenance display to 00 or blank
- switch CPUs in dual-CPU systems
- test the idle CPU in dual-CPU systems
- display the status of CPU and buses
- enable, disable, test, and display status of memory and CMA cards
- enable, disable and display the status of CE extenders

When loaded during daily routines, memories cards are tested. If there are two CPUs, a CPU switchover is made.

This Overlay applies to all systems EXCEPT Options 51C, 61C, 81 and 81C. Refer to LD 135 for Core Common Equipment Diagnostics.

Extender designations

Extender Codes for LD 35 (CED)

0M0—from CPU 0 to Memory Shelf 0

0M1—from CPU 0 to Memory Shelf 1

1M0—from CPU 1 to Memory Shelf 0

1M1—from CPU 1 to Memory Shelf 1

0G0—from CPU 0 Network Group 0

0G1—from CPU 0 Network Group 1

0G2—from CPU 0 Network Group 2

0G3—from CPU 0 Network Group 3

0G4—from CPU 0 Network Group 4

1G0—from CPU 1 Network Group 0

1G1—from CPU 1 Network Group 1

1G2—from CPU 1 Network Group 2

1G3—from CPU 1 Network Group 3

1G4—from CPU 1 Network Group 4

Basic commands

The following commands are applicable to all machines, except Option 11 systems. See the list of Option 11 commands for further information.

BATT	Check status of memory battery backup (STE and Option 21E only)
CDSP	Clear the maintenance display on active CPU to 00 or blank
CMAJ	Clear major alarm and reset power fail transfer
CMIN ALL	Clear minor alarm indication on all attendant consoles
CMIN c	Clear minor alarm indication on attendant consoles for customer c
DIS xx	Disable memory card xx
DIS CMA x	Disable Changeover and Memory Arbitrator (CMA) x
DIS EXT xxx	Disable the specified extender pair
DIS SBE	Disable the Segmented Bus Extender (SL-1 MS only)
DSPL	Get contents of maintenance display on the active CPU
END	Terminate test in progress
ENL xx	Enable and perform a memory test on card x
ENL CMA x	Enable Changeover and Memory Arbitrator (CMA) x
ENL EXT xxx	Enable specified extender pair
ENL SBE	Enable Segmented Bus Extender (SL-1 MS only)
FCNT	Print soft failure counts of all memory modules
IDC ICM	Print card ID for Integrated CPU with 4Meg Memory (ICM). (STE and Option 21E only)
IDC MSPS	Print card ID for Misc/SDI and PS (MSPS). (STE and Option 21E only)
LDIS	List disabled memories
LENL	List enabled memories
MEM xx	Perform memory test on module xx
MIDN	Run midnight (daily) routines once CED is aborted and the user logs off
REPL xx	Enable new memory card xx
SCPU	Make inactive CPU the active CPU
SHLF X	Perform memory decode fault test on CPU x
STAT CMA x	Get status of CMA x
STAT CPU	Output status of both CPUs
STAT EXT	Output extender pair designations
STAT EXT xxx	Output status of specified extender
STAT MEM	Output status of all memory cards

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STAT MEM xx	Output status of memory card xx
STAT SBE	Print status of Segmented Bus Extender (SL-1 MS)
TCPU	Test inactive CPU in a dual CPU system

Option 11 commands

CDSP	Clear the maintenance display on active CPU to 00 or blank
CMAJ	Clear major alarm and reset power fail transfer
CMIN ALL	Clear minor alarm indication on all attendant consoles
CMIN c	Clear minor alarm indication on attendant consoles for customer c
DSPL	Get contents of maintenance display
END	Terminate test in progress
MEM 0	Perform memory test on module 0
MIDN	Run midnight (daily) routines once CED is aborted
STAT MEM	Output status of all memory cards
STAT MEM xx	Output status of memory card xx

Alphabetical list of commands

Command	Description	Pack/Rel
BATT	Check status of memory battery backup. (STE and Option 21E only). The response is OK or CED503.	basic-18
CDSP	Clear the maintenance display on active CPU to 00 or blank.	basic-1
CMAJ	Clear major alarm, reset power fail transfer and clear power fault alarm.	basic-1
CMIN ALL	Clear minor alarm indication on all attendant consoles.	basic-1
CMIN c	Clear minor alarm indication on attendant consoles for customer c.	basic-1
DIS xx	Disable memory card xx. (xx is a 2-digit number) The first digit specifies which CPU the card is associated with and the second specifies the memory card number. All memory cards associated with that CPU must be disabled before removing the card.	basic-1
DIS CMA x	Disable Changeover and Memory Arbitrator (CMA) x. Disables the specified Changeover and Memory (CMA) card. The CMA must be on the idle CPU and all memories served by the CMA must be disabled.	basic-1
DIS EXT xxx	Disables the extender pair specified by xxx. Only extenders on the nonactive CPU may be disabled. The extender is marked as unusable by the system and it will not attempt to use it, i.e., a CPU changeover will not be permitted. LEDs on the card faceplates do not reflect this command. See introduction for extender designations.	basic-1
DIS SBE	Disable the Segmented Bus Extender (SL-1 MS only).	basic-1
DSPL	Get contents of maintenance display. If the maintenance display is blank, 000 will be output.	basic-1
END	Terminate test in progress.	basic-1

ENL xx	Perform memory test on Memory card xx. (xx is a 2-digit number) The first digit specifies which CPU the card is associated with and the second specifies the card number. The card must not be in use by the system. Dual CPU systems only. System response of OK is output and card is enabled if the test is passed.	basic-1
ENL CMA x	Enable Changeover and Memory Arbitrator (CMA) x. The CMA must be on the idle CPU.	basic-1
ENL EXT xxx	Enable specified extender pair. Only extenders on the nonactive CPU may be enabled. See introduction for extender designations. The state of the LED on the circuit card faceplate does not reflect this command.	basic-1
ENL SBE	Enable Segmented Bus Extender (SL-1 MS only).	basic-1
FCNT	Print soft failure counts of all memory modules. Response is either (sample):	basic-1

1. For system Options NT, RT, XT, 51, 61 and 71:

<u>CD</u>	<u>MTR</u>	<u>FCNT</u>
0	0	0
0	1	0
0	2	0

Where: CD = memory card number, MTR = Memory Trouble Register on 768K memory board, and FCNT = fault counts on that MTR.

2. For all other system options:

<u>CD</u>	<u>PAGE</u>	<u>LFC</u>	<u>HFC</u>
0	0	3	1
0	1	0	2
0	2	3	2
1	5	2	0
1	6	0	1

Where: CD = memory card number, PAGE = page number, LFC = fault count of low card module, and HFC = fault count of high card module.

Not applicable to SL-1 MS, S, ST or system Option 21.

IDC ICM IDC MSPS	Print card ID for ICM and Print card ID for MSPS. The Integrated CPU with 4Meg Memory (ICM) or Misc/SDI and PS (MSPS) card ID is output in the following format: <pre>PPPPPPPPAA RRSSSS cccccccc@DDDDDD</pre> Where: • PPPPPPPP = PEC code • AA = Attribute code • RR = Release number • SSSS = Serial number • cccccccc = Comments (optional) • @ = HEX 01 ASCII SOH character (non printing) • DDDDD = Design code	basic-18
LDIS	List disabled memories. Not applicable to SL-1 MS, S, ST or system Options 11 and 21.	basic-1
LENL	List enabled memories. Not applicable to SL-1 MS, S, ST or system Options 11 and 21.	basic-1
MEM 0	Perform memory test on module 0. (Option 11)	basic-1
MEM xx	Perform memory test on module xx. Performs a memory test on module xx, which is a 1- or 2-digit number specifying the card to be tested. If only one digit is entered the memory in CPU 0 is tested. The card does not have to be in the configuration record (CFN) to pass the test. System outputs K if test is passed. The module must be disabled first with the DIS xx command.	basic-1
MIDN	Run midnight (daily) routines once CED is aborted. MIDN causes midnight routines to be run after CED is aborted or logged out.	basic-1
REPL xx	Enable new memory card xx. (xx is a 2-digit number) The first digit specifies which CPU the module is associated with and the second specifies the memory module number. This command is used to enable a new memory module after inserting it into the shelf. It sets the soft memory failure count zero and tests the module. If the tests are successful the module is enabled.	basic-1

SCPU	Make inactive CPU the active CPU. In a dual CPU system, this command causes the inactive CPU to become the active CPU. If the changeover is successful, OK is output. This command cannot be used when the active CPU is in maintenance mode. Caution: Indiscriminate use of this command should be avoided as system reload may occur.	basic-1
SHLF x	SHLF x performs a memory decode fault test on the disabled memories corresponding to the specified CPU x (0 or 1). To use this test, disable the memory cards that are to be included in the test and issue the command to the appropriate shelf. If individual tests of memory cards using the MEM command pass but the SHLF test fails on the same modules, then the CMA or controller is probably faulty.	basic-1
STAT CMA x	Get status of CMA x. Response is: CMA x ACTIVE y MEM = CMA is being used CMA x DSBL y MEM = CMA is disabled CMA x ENBL y MEM = CMA is enabled but in a standby state Ignore the value y for memory. Use STAT MEM to check memory status.	basic-1
STAT CPU	Outputs the status of both CPUs. Responses are: • ENBL = CPU is running • IDLE = CPU is in standby • DSBL = CPU is disabled Not applicable to Meridian SL-1 MS or S.	basic-1
STAT EXT	Output extender pair designations. This command outputs the extender pair designation and if disabled indicates the number of devices on the network shelf connected to the extender that would become inaccessible if a CPU changeover occurs. If the extender has been disabled by using the DIS EXT command, then the number output will be equal to the number of devices on the shelf. See introduction for extender designations.	basic-1

STAT EXT xxx	Output status of specified extender. For extenders to network shelves, the response is: • x <status> <y NET> Where: 1. x <status> = status of extender x and can be one of: - a ENBL = the extender is enabled. - b DSBL = the extender is disabled. - c LEFT DSBL = only the left half of the group served by the extender is disabled; i.e., shelf 0. - d RIGHT DSBL = only the right half of the group served by the extender is disabled; i.e., shelf 1 2. y NET = the number of network and PS cards that do not respond when accessed using the specified extender but do respond when the extender from the other CPU is used.	basic-1
STAT MEM	Outputs the status of all Memory cards, i.e., how many cards enabled and how many disabled. Use STAT MEM xx for status of a specific card.	basic-1
STAT MEM xx	Output status of memory card xx. (xx is a 2-digit number) The first digit specifies which CPU the module is associated with and the second specifies the memory module number. Responses are: • ENBL = module is enabled • ENBL BUT FAULTY = module is enabled but faulty • REPL = module is replaced • DSBL = module is disabled • UNEQ = module is missing or not configured	basic-1
STAT SBE	Print status of Segmented Bus Extender (SL-1 MS only).	basic-1
TCPU	Test inactive CPU in a dual CPU system. This command tests the inactive CPU. If the CPU passes, OK is output. This command cannot be used when the active CPU is in maintenance mode. Caution: Indiscriminate use of this command should be avoided as system reload may occur.	basic-1
